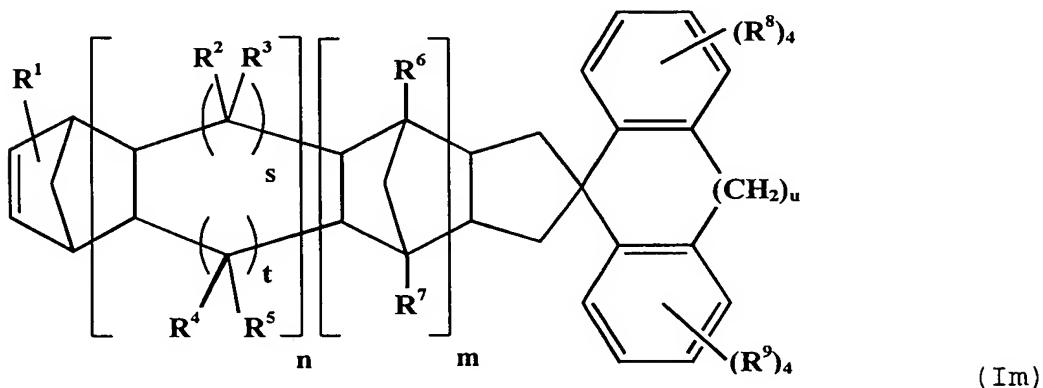


CLAIMS

1. A norbornene derivative represented by the following formula (Im) :



5 wherein R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ and R⁹ are each independently an atom or a group selected from the group consisting of a hydrogen atom, a halogen atom, a substituted or unsubstituted hydrocarbon group of 1 to 30 carbon atoms which may have a linkage containing an

10 oxygen atom, a nitrogen atom, a sulfur atom or a silicon atom, and a polar group,

s, t and u are each independently an integer of 0 to 3, and

m and n are each independently an integer of 0 to 2.

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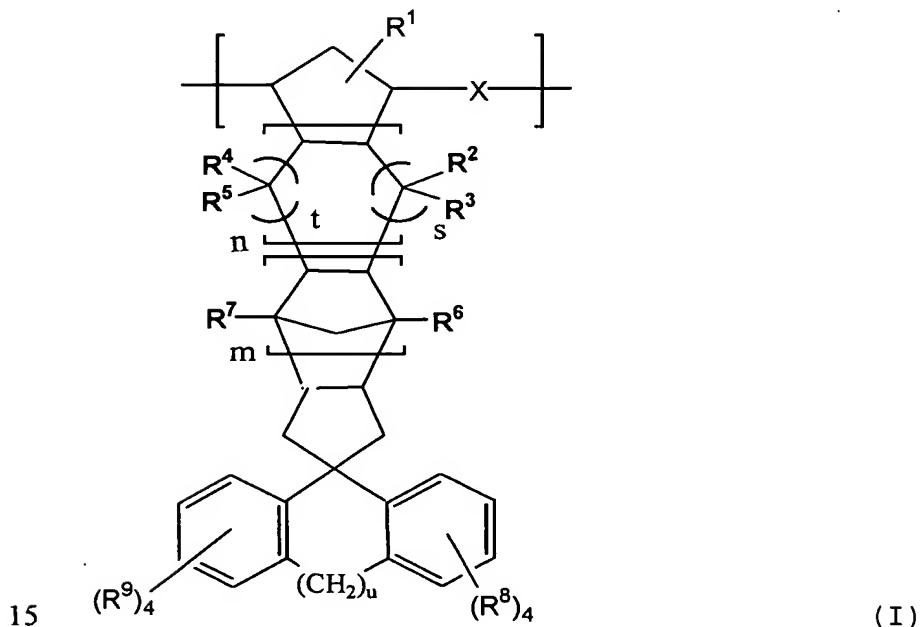
2. The norbornene derivative as claimed in claim 1, wherein in the formula (Im), n is 0 and m is 0 or 1.

3. The norbornene derivative as claimed in claim 1 or 2, wherein in the formula (Im), u is 0 or 1.

4. The norbornene derivative as claimed in claim 1,
5 wherein in the formula (Im), n is 1 or 2, s and t are each 1, and u is 0 or 1.

5. The norbornene derivative as claimed in any one of claims 1 to 4, wherein in the formula (Im), 3 or more
10 of R⁸ and 3 or more of R⁹ are each a hydrogen atom.

6. A norbornene ring-opened (co)polymer having structural units (I) represented by the following formula (I):



wherein m and n are each independently an integer of 0 to 2,

X is a group represented by the formula -CH=CH- or a group represented by the formula -CH₂CH₂-,

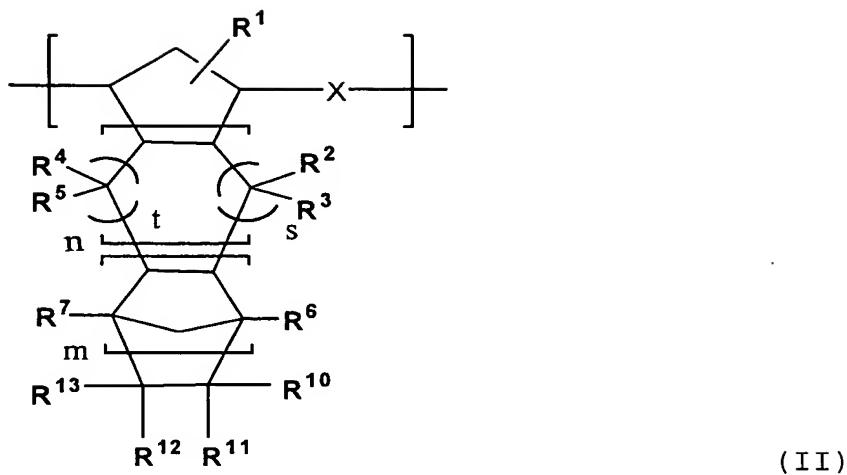
5 R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ and R⁹ are each independently an atom or a group selected from the group consisting of a hydrogen atom, a halogen atom, a substituted or unsubstituted hydrocarbon group of 1 to 30 carbon atoms which may have a linkage containing an

10 oxygen atom, a nitrogen atom, a sulfur atom or a silicon atom, and a polar group, and

s, t and u are each independently an integer of 0 to 3.

15 7. The norbornene ring-opened (co)polymer as claimed in claim 6, wherein the structural units (I) are contained in amounts of not less than 2% by mol of all structural units.

20 8. The norbornene ring-opened (co)polymer as claimed in claim 6 or 7, which further has structural units (II) represented by the following formula (II):



wherein m and n are each independently an integer of 0 to 2,

X is a group represented by the formula -CH=CH- or a
5 group represented by the formula -CH₂CH₂-,

R¹, R², R³, R⁴, R⁵, R⁶ and R⁷ are each independently
an atom or a group selected from the group consisting of
a hydrogen atom, a halogen atom, a substituted or
unsubstituted hydrocarbon group of 1 to 30 carbon atoms
10 which may have a linkage containing an oxygen atom, a
nitrogen atom, a sulfur atom or a silicon atom, and a
polar group,

R¹⁰, R¹¹, R¹² and R¹³ are each independently an atom or
a group selected from the group consisting of a hydrogen
15 atom, a halogen atom, a substituted or unsubstituted
hydrocarbon group of 1 to 30 carbon atoms which may have
a linkage containing an oxygen atom, a nitrogen atom, a

sulfur atom or a silicon atom, and a polar group, they may be bonded to each other to form a monocyclic or polycyclic group which may have a hetero atom, and R¹⁰ and R¹¹, or R¹² and R¹³ may be united to form a divalent hydrocarbon group, and

s and t are each independently an integer of 0 to 3.

9. The norbornene ring-opened (co)polymer as claimed in claim 8, wherein the structural units (II) are contained in amounts of not more than 98% by mol of all structural units.

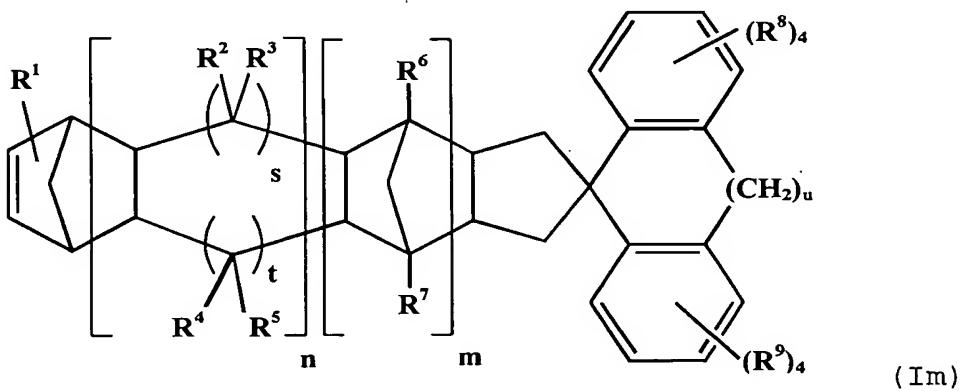
10. The norbornene ring-opened (co)polymer as claimed in any one of claims 6 to 9, wherein the total amount of the structural units (I) and the structural units (II) is not less than 5% by mol of all structural units.

11. The norbornene ring-opened (co)polymer as claimed in any one of claims 6 to 10, wherein X in an amount of not less than 90% by mol of the total amount of X in the structural units (I) and the structural units (II) is a group represented by -CH₂CH₂-.

12. The norbornene ring-opened (co)polymer as claimed in any one of claims 6 to 11, wherein the structural units (I) are structural units of the formula (I) in which m is 0, n is 0, and u is 0.

5

13. A process for preparing a norbornene ring-opened (co)polymer, comprising ring-opening (co)polymerizing a norbornene monomer (Im) represented by the following formula (Im) optionally together with a 10 norbornene monomer (IIIm) represented by the following formula (IIIm);

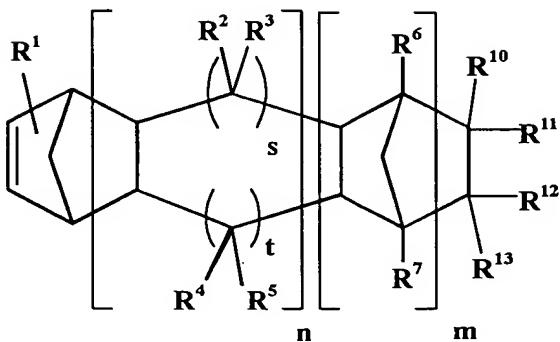


wherein m and n are each independently an integer of 0 to 2,

15 R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸ and R⁹ are each independently an atom or a group selected from the group consisting of a hydrogen atom, a halogen atom, a substituted or unsubstituted hydrocarbon group of 1 to 30 carbon atoms which may have a linkage containing an

oxygen atom, a nitrogen atom, a sulfur atom or a silicon atom, and a polar group, and

s, t and u are each independently an integer of 0 to 3;



5

(IIIm)

wherein m and n are each independently an integer of 0 to 2,

R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 are each independently an atom or a group selected from the group consisting of 10 a hydrogen atom, a halogen atom, a substituted or unsubstituted hydrocarbon group of 1 to 30 carbon atoms which may have a linkage containing an oxygen atom, a nitrogen atom, a sulfur atom or a silicon atom, and a polar group,

R^{10} , R^{11} , R^{12} and R^{13} are each independently an atom or a group selected from the group consisting of a hydrogen atom, a halogen atom, a substituted or unsubstituted hydrocarbon group of 1 to 30 carbon atoms which may have a linkage containing an oxygen atom, a nitrogen atom, a

sulfur atom or a silicon atom, and a polar group, they may be bonded to each other to form a monocyclic or polycyclic group which may have a hetero atom, and R¹⁰ and R¹¹, or R¹² and R¹³ may be united to form a divalent

5 hydrocarbon group, and

s and t are each independently an integer of 0 to 3.

14. The process for preparing a norbornene ring-opened (co)polymer as claimed in claim 13, comprising
10 ring-opening (co)polymerizing the norbornene monomer (Im) represented by the formula (Im) optionally together with the norbornene monomer (IIm) represented by the formula (IIm) and then hydrogenating the resulting (co)polymer.

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